I. AMENDMENT

A. In the Specification

Please amend the specification at paragraphs 12, 42, 44, and 45 as indicated

[0012] A PKD1-specific primer of the invention is exemplified by an oligonucleotide that can selectively hybridize to a nucleotide sequence that flanks and is within about fifty nucleotides of a nucleotide sequence selected from about nucleotides 2043 to ~~4209~~ 4290; nucleotides 17907 to 22489; nucleotides 22218 to 26363; nucleotides 26246 to 30615; nucleotides 30606 to 33957; nucleotides 36819 to 37140; nucleotides 37329 to 41258; and nucleotides 41508 to 47320 of SEQ ID NO:1. The primer, which can be one of a primer pair, can have a nucleotide sequence substantially identical to any of SEQ ID NOS: 3 to 18, provided that when the primer is not one of a primer pair, the primer does not have a sequence as set forth in SEQ ID NO:11, SEQ ID NO:18, SEQ ID NO:52, or SEQ ID NO:60. Accordingly, the present invention further relates to a primer pair that can amplify a portion of a PKD1 gene, for example, the wild type PKD1 gene set forth as SEQ ID NO:1, wherein the amplification product can include about nucleotides 2043 to ~~4209~~ 4290; nucleotides 17907 to 22489; nucleotides 22218 to 26363; nucleotides 26246 to 30615; nucleotides 30606 to 33957; nucleotides 36819 to 37140; nucleotides 37329 to 41258; nucleotides 41508 to 47320; or a combination thereof. A primer pair of the invention is useful for performing PKD1-specific amplification of a portion of a PKD1 gene.

[0042] PKD1-specific primers of the invention are exemplified by primers that can selectively hybridize to a nucleotide sequence that flanks and is within about fifty nucleotides of a nucleotide sequence of SEQ ID NO:1 selected from about nucleotides 2043 to ~~4209~~ 4290; nucleotides 17907 to 22489; nucleotides 22218 to 26363; nucleotides 26246 to 30615; nucleotides 30606 to 33957; nucleotides 36819 to 37140; nucleotides 37329 to 41258; and nucleotides 41508 to 47320. A primer of the invention is exemplified by any of SEQ ID NOS: 3

to 10, 12 to 17, 19 to 51, and 61 to 113, and can have a sequence substantially identical to any of SEQ ID NOS:3 to 51 and 61 to 113, provided the sequence meets the requirements of a PKD1-specific primer as disclosed herein, and provided the sequence is not a sequence as set forth in any of SEQ ID NO:11, SEQ ID NO:18, SEQ ID NO:52, and SEQ ID NO:60.

[0044] The present invention also provides primer pairs. In one embodiment, a primer pair of the invention comprising a forward and reverse PKD1-specific primer as disclosed herein. As such, a primer pair of the invention can amplify a portion of SEQ ID NO:1 including about nucleotides 2043 to ~~4209~~ 4290; nucleotides 17907 to 22489; nucleotides 22218 to 26363; nucleotides 26246 to 30615; nucleotides 30606 to 33957; nucleotides 36819 to 37140; nucleotides 37329 to 41258; nucleotides 41508 to 47320; or a combination thereof. In general, a primer pair of the invention can produce an amplification product of about ten kilobases or shorter, generally about 7500 bases or shorter, and particularly about six kilobases or shorter. Primer pairs of the invention are exemplified by a forward primer and a reverse primer selected from SEQ ID NOS:3 to 18, for example, by any of SEQ ID NOS:3 and 4; SEQ ID NOS:5 and 6; SEQ ID NOS:7 and 8; SEQ ID NOS:9 and 10; SEQ ID NOS:11 and 12; SEQ ID NOS:13 and 14; SEQ ID NOS:15 and 16; SEQ ID NOS:17 and 18; and SEQ ID NOS:9 and 113, which can be used to produce PKD1-specific amplification products of about 0.3 kilobases to about 5.8 kilobases.

[0045] As disclosed herein, a set of eight polymerase chain reaction (PCR) primer pairs can be used to prepare PKD1-specific amplification products that encompass all of the exons and their flanking introns within the replicated region of the PKD1 gene. In view of the disclosed nucleotide sequences of the primers and of SEQ ID NO:1, it will be recognized that additional PCR primer pairs useful for a preparing PKD1-specific first amplification product can be based on the exemplified primers and primer pairs, but can include one or few additional nucleotides (based on SEQ ID NO:1) at one or both ends of the exemplified primers, or can have one or a few nucleotides

of an exemplified primer deleted, and their usefulness can be determined by comparing an amplification product generated using the derived or modified primer with a PKD1-specific amplification product as disclosed herein. As such, a primer pair based, for example, on SEQ ID NOS: 3 and 4 can be used to generate a PKD-1 specific amplification product containing about nucleotides 2043 to ~~4209~~ 4290 of SEQ ID NO:2, where in reference to "about" nucleotides 2043 to ~~4209~~ 4290 of SEQ ID NO:2 accounts for the disclosure that a primer pair used for amplification can be identical or substantially identical to SEQ ID NOS: 3 and 4.